Remarks

Claims 1 and 3-169 are currently pending in this application. Claims 3, 9, 10, 13-67, and 70-169 have been canceled as being drawn to non-elected inventions. Claims 4 and 5 have been canceled without prejudice as to being pursued in future related applications. Claim 1 has been amended.

1. Claim Rejections - 35 USC §103

Claims 1, 4-5, 11-12, and 69 stand rejected under 35 USC §103(a) as allegedly being unpatentable over Bagshawe *et al.* (US Patent 6,299,876) in view of Wolfgang *et al.* (WO 01/88106). In addition, claims 1, 4-8, and 11-12 stand rejected under 35 USC §103(a) as allegedly being unpatentable over Bagshawe *et al.* (US Patent 6,299,876) and Wolfgang *et al.* (WO 01/88106) in view of Kossman *et al.* (*Clin Can Res.* 1999, Vol. 5, pages 2748-55).

Bagshawe *et al.* teach methods for sensitizing tumor cells to cytotoxic agents by conjugating enzymes that *inactivate* anti-cytotoxic agents with specific antibodies that target specific tumor cells, wherein the enzyme-antibody conjugate targets a tumor cell, and the enzyme *inactivates* some substance in the cell that can inhibit the effect of a cytotoxic agent. Bagshawe *et al.* do not teach modified deoxycytidine kinase that *activates* a chemotherapeutic agent, or for any other purpose.

Wolfgang *et al.* teach *deoxyribonucleoside* kinase variants and activities thereof, but do not disclose the activities of any modified human *deoxycytidine* kinases.

Kossman *et al.* teach the effects of the humanized M195 antibody (HuM195) in patients with acute myeloid leukemia. Kossman *et al.* do not teach antibody-conjugates comprising HuM195.

Claim 1 has been amended to recite that the specific enzyme conjugated to antibody is a modified deoxycytidine kinase having an amino acid sequence identified as SEQ ID NO: 5. None of the cited references teaches or suggests the modified deoxycytidine kinase of the claims, or the particular changes in the modified

deoxycytidine kinase of the claims (relative to wild type deoxycytidine kinase) (*i.e.* changes at amino acid positions 100, 104, and/or 133). Nor do any of the references teach or suggest that the modified deoxycytidine kinase of the claims has enhanced activity towards nucleoside analogs compared with wild type deoxycytidine kinase. Consequently, Applicants respectfully request that this ground of rejection be withdrawn.

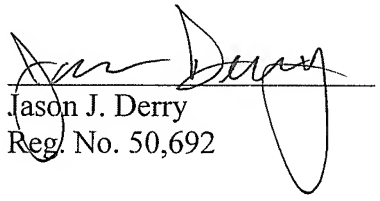
Conclusion

Applicants respectfully contend that all conditions of patentability are met in the pending claims as amended or as originally presented. Allowance of the claims is thereby respectfully solicited.

If there are any questions or comments regarding this Response or application, the Examiner is encouraged to contact the undersigned representative as indicated below at 312-913-0001.

Respectfully submitted,
McDonnell Boehnen Hulbert & Berghoff LLP

Date: May 2, 2006

By: 
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